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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/584,483

06/23/2006

Eberhard Handrich

L-413

3064

7590
Elliot N Kramsky
5850 Canoga Avenue
Suite 400
Woodland Hills, CA 91367

05/05/2008

EXAMINER

CHAPMAN JR, JOHN E

ART UNIT

PAPER NUMBER

2856

MAIL DATE

DELIVERY MODE

05/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/584,483 | Applicant(s) HANDRICH ET AL. | |
| | Examiner John E. Chapman | Art Unit 2856 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,10-12 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,10 and 11 is/are rejected.
- 7) ☒ Claim(s) 12 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Replacement drawings for Figs. 1 and 2 were received on March 4, 2008. These drawings are acceptable. However, replacement drawings for Figs. 3 and 4 should also be provided, since the originally submitted drawings are of poor quality.
2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification fails to describe “a constant force” which causes a change in the alignment of the first spring elements and/or a change in the alignment of the second spring elements, as recited in claims 1 and 6.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1, 3, 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark et al. (6,067,858).

Clark et al. discloses a method for quadrature-bias compensation in a Coriolis gyro in Fig. 14, whose resonator (202) is in the form of a coupled system comprising a first (220) and a second (230) linear oscillator, in which the first oscillator is attached to a gyro frame (204) of the Coriolis gyro by means of first spring elements (224) and the second oscillator is attached to the first oscillator by means of second spring elements (228), wherein the quadrature error of the

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Coriolis gyro is determined, and an electrostatic field is produced in order to nullify the quadrature error, i.e., make the quadrature error as small as possible. The electrostatic field produces a constant electromotive force that acts on the second linear oscillator (230) and thereby causes a change in the alignment of the first spring elements (224) and/or a change in the alignment of the second spring elements (228).

Regarding claim 3, the position/alignment of the first and second oscillator is varied by means of the electrostatic field.

Regarding claim 4, the quadrature correction compensates for manufacturing flaws, such as the first spring elements (224) and the second spring elements (228) not being orthogonal with respect to each other, and inherently tends to make the first spring elements (224) and the second spring elements (228) orthogonal with respect to each other.

Regarding claim 6, Clark et al. teaches providing a control loop in order to regulate the strength of the electrostatic field (column 22, lines 47-49).

5. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al. (6,067,858).

Regarding claim 10, the only difference between the claimed invention and the prior art consist in using two spring elements (228) instead of four spring elements to support the second oscillator (230) to the first oscillator (220) such that force is introduced from the first oscillator to the second oscillator essentially from one side of the first oscillator. Merely to reduce the number of spring elements would have been obvious to one of ordinary skill in the art, and the results would have been predictable.

Regarding claim 11, the only difference between the claimed invention and the prior art consist in using two spring elements (224) instead of four spring elements to support the first oscillator (220). Merely to reduce the number of spring elements would have been obvious to one of ordinary skill in the art, and the results would have been predictable.

6. Claims 12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Applicant's arguments filed March 4, 2008 have been fully considered but they are not persuasive. Applicant argues that Clark et al. describes a method and Coriolis gyroscope in which alternating forces are employed for quadrature nulling, whereas the claims recite production of an electrostatic field that produces “a constant force which causes a change in the alignment of the first spring elements and/or a change in the alignment of the second spring elements” (underlining original). Applicant's argument, however, is more specific than the invention claimed. Applicant is referring to the electrostatic force between two charged surfaces. See column 8, lines 8-10, of Clark. Since the overlapping area of the surfaces change, the electrostatic force alternates with movement of the proof mass (22) in Fig. 7C. However, the electromotive force is constant during this motion, since the charge on the charge on the fingers (74a, 74b, 76a, 76b) is constant. It is not clear from the claim that applicant is referring to the electrostatic force, for example, between a proof mass (22) and fixed fingers (74a, 74b, 76a, 76b) of Clark, rather than to the electromotive force between fixed fingers (74a, 74b, 76a, 76b). For a

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distinction between electrostatic and electromotive forces, note paragraph [0057] of Hulsing (EP 1359391). The claims do not indicate between which elements the “constant force” exists, nor do the claims make clear that a constant electrostatic force is produced. Furthermore, the specification does not make clear to which force applicant is referring, since there is no mention of any force as being “constant” in the specification. Consequently, the mere recitation of “a constant force” in the claims fails to distinguish over the prior art.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John E. Chapman whose telephone number is (571) 272-2191. If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Hezron

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Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John E Chapman/
Primary Examiner
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